

1 1. A method for lessening or preventing non-
2 pulmonary ischemia-reperfusion injury in a mammal,
3 comprising the steps of:
4 (a) identifying a mammal that has ischemia-
5 reperfusion or is at risk for developing ischemia-
6 reperfusion in a non-pulmonary tissue; and
7 (b) causing the mammal to inhale a
8 therapeutically effective amount of gaseous nitric oxide
9 sufficient to diminish the ability of the mammal's
10 leukocytes or platelets to become activated in a manner that
11 contributes to an inflammatory process at the site of the
12 ischemia-reperfusion in the non-pulmonary tissue, thereby
13 lessening or preventing non-pulmonary ischemia-reperfusion
14 injury in the mammal.

1 2. The method of claim 1, further comprising the
2 step of administering to the mammal a therapeutically
3 effective amount of a second compound that potentiates the
4 therapeutic effect of gaseous nitric oxide.

1 3. The method of claim 2, wherein the second
2 compound is selected from the group consisting of a
3 phosphodiesterase inhibitor and superoxide dismutase.

1 4. The method of claim 3, wherein the
2 phosphodiesterase inhibitor is selected from the group
3 consisting of 2-o-propoxyphenyl-8-azapurin-6-one,
4 dipyridamole, theophylline, sildenafil, and 1,3-dimethyl-6-
5 (2-propoxy-5-methanesulphonylamidophenyl)-pyrazolo[3,4-
6 D]pyrimidin-4-(5H)-one.

1 5. The method of claim 2, wherein the second
2 compound is selected from the group consisting of aspirin,

3 ticlopidine, streptokinase, urokinase, t-PA and analogs
4 thereof, heparin, and hirudin and analogs thereof.

1 6. The method of claim 1, wherein the injury is
2 caused by surgery.

1 7. The method of claim 6, wherein the surgery is
2 transplantation surgery.

1 8. The method of claim 7, wherein the
2 transplantation surgery is kidney transplantation surgery or
3 heart transplantation surgery.

1 9. The method of claim 6, wherein the surgery is
2 heart bypass surgery.

1 10. The method of claim 1, wherein the injury is
2 caused by a vascular interventional procedure.

1 11. The method of claim 10, wherein the vascular
2 interventional procedure is angioplasty.

1 12. The method of claim 11, wherein the angioplasty
2 includes the use of a laser, balloon, or stent.

1 13. The method of claim 11, wherein the angioplasty
2 is an atherectomy.

1 14. The method of claim 10, wherein the vascular
2 interventional procedure is percutaneous transluminal
3 coronary angioplasty.

1 15. The method of claim 1, wherein the injury is
2 caused by thrombolysis.

1 16. The method of claim 1, wherein the injury is
2 caused by a stroke.

1 17. The method of claim 1, wherein the injury occurs
2 in the kidney.

1 18. The method of claim 1, wherein the injury occurs
2 in the heart.

1 19. The method of claim 1, wherein the injury occurs
2 in the brain.

1 20. The method of claim 1, wherein the injury occurs
2 spontaneously.

1 21. The method of claim 1, wherein the
2 therapeutically effective amount of nitric oxide is
3 administered to the mammal at a predetermined concentration
4 range.

1 22. The method of claim 21, wherein the
2 concentration range is 0.1 ppm to 300 ppm.

1 23. The method of claim 1, wherein the nitric oxide
2 is inhaled continuously for an extended period.

1 24. The method of claim 1, wherein the nitric oxide
2 is inhaled intermittently for an extended period.

1 25. The method of claim 1, wherein the mammal is a
2 human.

1 26. The method of claim 1, wherein the amount of
2 gaseous nitric oxide is sufficient to diminish the ability
3 of platelets to become activated in a manner that
4 contributes to the inflammation process at the site of the
5 ischemia-reperfusion.

1 27. A method for decreasing or preventing non-
2 pulmonary inflammation in a mammal, comprising the steps of:

3 (a) identifying a mammal which has existing
4 inflammation or is at risk for developing inflammation in a
5 non-pulmonary tissue;

6 (b) causing the mammal to inhale a
7 therapeutically effective amount of gaseous nitric oxide
8 sufficient to diminish the ability of the mammal's
9 leukocytes or platelets to become activated in a manner that
10 contributes to an inflammation process in the non-pulmonary
11 tissue, thereby decreasing or preventing non-pulmonary
12 inflammation in the mammal; and

13 (c) immediately before, during, or after the
14 inhalation of nitric oxide by the mammal, administering to
15 the mammal a therapeutically effective amount of a second
16 compound that potentiates the therapeutic effect of gaseous
17 nitric oxide.

1 28. The method of claim 27, wherein the non-
2 pulmonary inflammation is arthritis, myocarditis,
3 encephalitis, transplant rejection, systemic lupus
4 erythematosus, gout, dermatitis, inflammatory bowel disease,
5 hepatitis, or thyroiditis.

1 29. The method of claim 27, wherein the second
2 compound is selected from the group consisting of a
3 phosphodiesterase inhibitor and superoxide dismutase.

1 30. The method of claim 29, wherein the
2 phosphodiesterase inhibitor is selected from the group
3 consisting of 2-o-propoxyphenyl-8-azapurin-6-one,
4 dipyridamole, theophylline and 1,3-dimethyl-6-(2-propoxy-5-
5 methanesulphonylamidophenyl)-pyrazolo[3,4-D]pyrimidin-4-
6 (5H)-one.

1 31. The method of claim 27, wherein the second
2 compound is selected from the group consisting of a non-
3 steroidal anti-inflammatory agent, a glucocorticoid, and a
4 cytotoxic agent.

1 32. The method of claim 27, wherein the nitric oxide
2 is inhaled in a predetermined concentration range.

1 33. The method of claim 32, wherein the
2 concentration range is 0.1 ppm to 300 ppm.

1 34. The method of claim 27, wherein the nitric oxide
2 is inhaled continuously for an extended period.

1 35. The method of claim 27, wherein the nitric oxide
2 is inhaled intermittently for an extended period.

1 36. The method of claim 27, wherein the mammal is a
2 human.

1 37. The method of claim 27, wherein the amount of
2 gaseous nitric oxide is sufficient to diminish the ability

3 of platelets to become activated in a manner that
4 contributes to the inflammation process.

1 38. The method of claim 1, wherein the injury is
2 caused by trauma.

1 39. The method of claim 1, wherein the injury is
2 caused by temporary hypotension.